

Lesson 2.4 • Direct Variation

Name _____ Period _____ Date _____

1. If x represents distance in feet and y represents distance in meters, then $y = 0.3048x$. Enter this equation into the Y = menu on your calculator. Trace on the graph to find each missing quantity. Round each answer to the nearest tenth.
 - a. 25 feet = y meters
 - b. x feet = 4 meters
 - c. 12.4 feet = y meters
 - d. x feet = 7 meters
2. If x represents distance in inches and y represents distance in centimeters, then $y = 2.54x$. Enter this equation into your calculator. Trace on the graph of the equation or use the calculator table to find each missing quantity. Round each answer to the nearest tenth.
 - a. 36 inches = y centimeters
 - b. x inches = 40 centimeters
 - c. x inches = 15 centimeters
 - d. 0.8 inch = y centimeters
3. Describe how to solve each equation for x . Then solve.
 - a. $18 = 3.2x$
 - b. $5x = 12\frac{1}{2}\left(3\frac{5}{6}\right)$
 - c. $\frac{7.4}{x} = \frac{1}{0.3}$
 - d. $\frac{x}{29} = 8.610$
4. Substitute each given value into the equation $y = 4.2x$ to find the missing value.
 - a. Find y if $x = 5$.
 - b. Find y if $x = 8$.
 - c. Find x if $y = 16.8$.
 - d. Find x if $y = 1.05$.
 - e. Find y if $x = \frac{3}{4}$.
 - f. Find x if $y = \frac{3}{4}$.
5. The equation $d = 27.8t$ shows the direct-variation relationship between the time and maximum legal distance traveled on most two-lane highways in Canada. The variable t represents the time in seconds, and d represents the distance in meters. Use the equation to answer the questions.
 - a. What distance can a car legally cover in 30 seconds? In 1 hour?
 - b. What is the shortest amount of time in which a person can legally drive 15 kilometers? (1 km = 1000 m)
 - c. What is the legal speed limit on most two-lane Canadian highways in meters per second? In kilometers per hour? In miles per hour? (1 mi \approx 1.6 km)